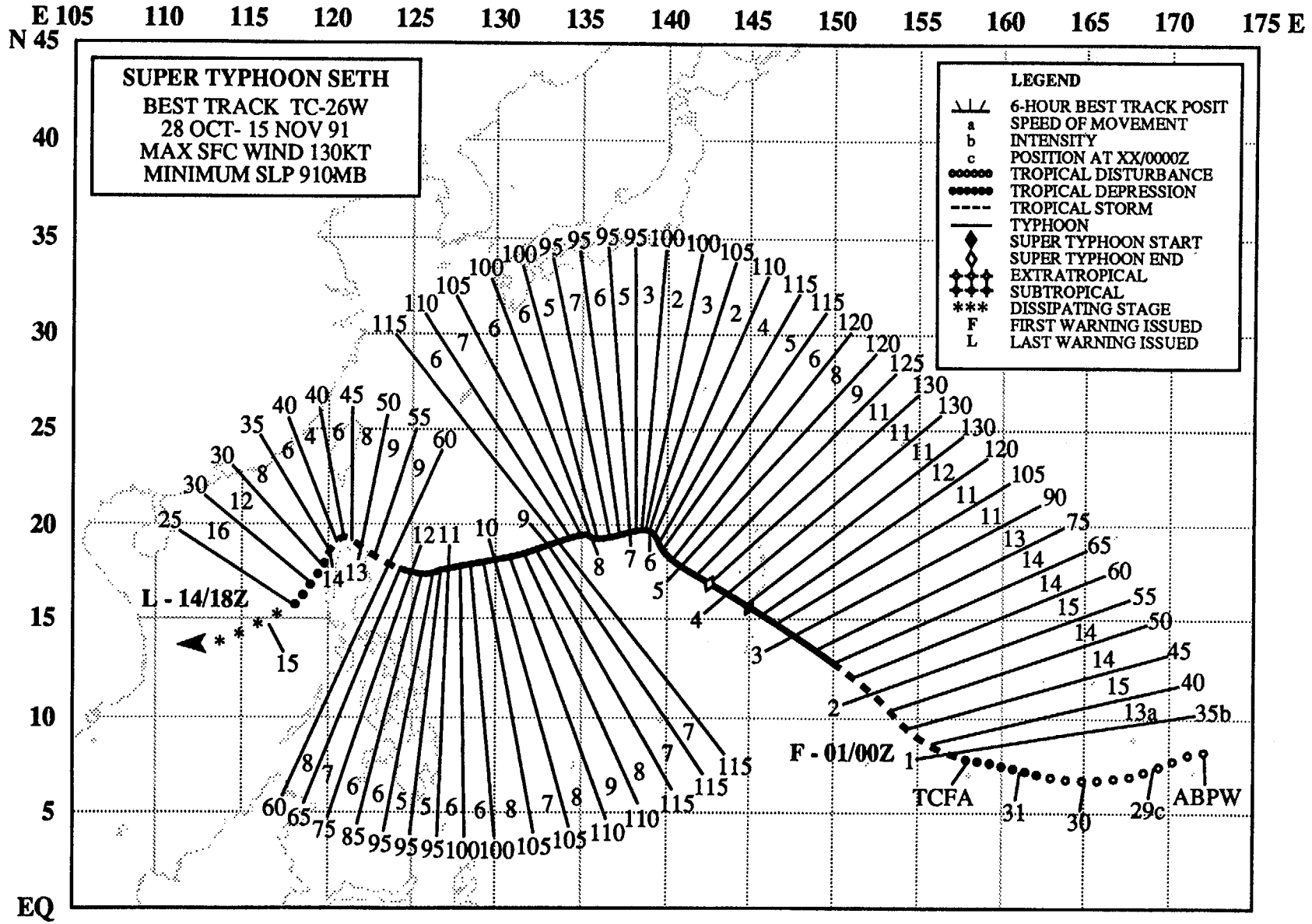
SUPER TYPHOON SETH
BEST TRACK TC-26W
28 OCT- 15 NOV 91
MAX SFC WIND 130KT
MINIMUM SLP 910MB
LEGEND
6-HOUR BEST TRACK POSIT
SPEED OF MOVEMENT
INTENSITY
POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
SUBTROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
L - 14/18Z
F - 01/00Z
TCFA
ABPW
E 105
110
115
120
125
130
135
140
145
150
155
160
165
170
175 E
N 45
40
35
30
25
20
15
10
5
EQ

SUPER TYPHOON SETH (26W)

I. HIGHLIGHTS

Super Typhoon Seth was the first of six tropical cyclones to reach at least typhoon intensity in the month of November. This was the most active November in the western North Pacific since 1964. Forecasts for Seth's generally westward track were complicated by the normally reliable objective guidance suggesting recurvature which did not occur.

II. TRACK AND INTENSITY

Seth originated as a weak disturbance in the southern Marshall Islands, and was mentioned on the 280600Z October Significant Tropical Weather Advisory. Synoptic and satellite data for the next several days indicated slow development. A Tropical Cyclone Formation Alert was issued at 311730Z October based on a significant increase in the amount and organization of convection over the preceding 12 hours. More convection and the detection of a circulation defined by low-level cloud lines on visual satellite imagery prompted the first warning at 010000Z November.

The tropical cyclone continued tracking west-northwestward and intensified rapidly. With a faster than normal rate of intensification supported by dual outflow channels aloft, the system quickly peaked, reaching a maximum intensity of 130 kt (67 m/sec) at 031800Z (Figure 3-26-1). On 4 November Seth started to slow as it approached the axis of the subtropical ridge and the anticipated point of recurvature. However, the ridge strengthened as the super typhoon weakened, and Seth became almost stationary for 24 hours before resuming a slow, west-southwestward track on 6 November.

For the next 5 days, Seth continued west-southwestward and briefly reintensified. During this period Seth and Tropical Storm Verne (28W), located to the east, closed to within 800 nm (1480 km) of each other. While the influence was nominal due to the large separation distance, Verne weakened the ridge to the north and contributed to the slowing of Seth. On 12 November Seth gradually turned northwestward as it approached northern Luzon. This turn appeared to be in response to a weakness in the ridge west of Taiwan. However, once again the ridge strengthened, and the tropical cyclone turned southwestward along the edge of a low-level surge from the northeast. Due to shear and land affects, Seth continued to weaken as it moved into the South China Sea and dissipated. The final warning was issued at 141800Z.

III. FORECAST PERFORMANCE

Seth's track was difficult to forecast because of the narrow subtropical ridge and the objective guidance which kept suggesting recurvature. As the track neared 140°E longitude, the Colorado State University Model (CSUM) proved to be the best performer, aided by its tendency to be slow in recurvature situations. Once Seth moved westward from the bifurcation point near 140°E, JTWC's forecast performance improved significantly (Figure 3-26-2).

IV. IMPACT

As Seth brushed by Saipan in the Northern Mariana Islands on 3 November no fatalities were reported, but significant property and crop damage occurred. Estimates of damage to public facilities alone were as high as US$2 million. Families were evacuated from low lying areas, and 9.5 inches (240 mm) of rain caused widespread flooding. Later, when Seth tracked through the Luzon Strait, no reports of property damage or injury were received.

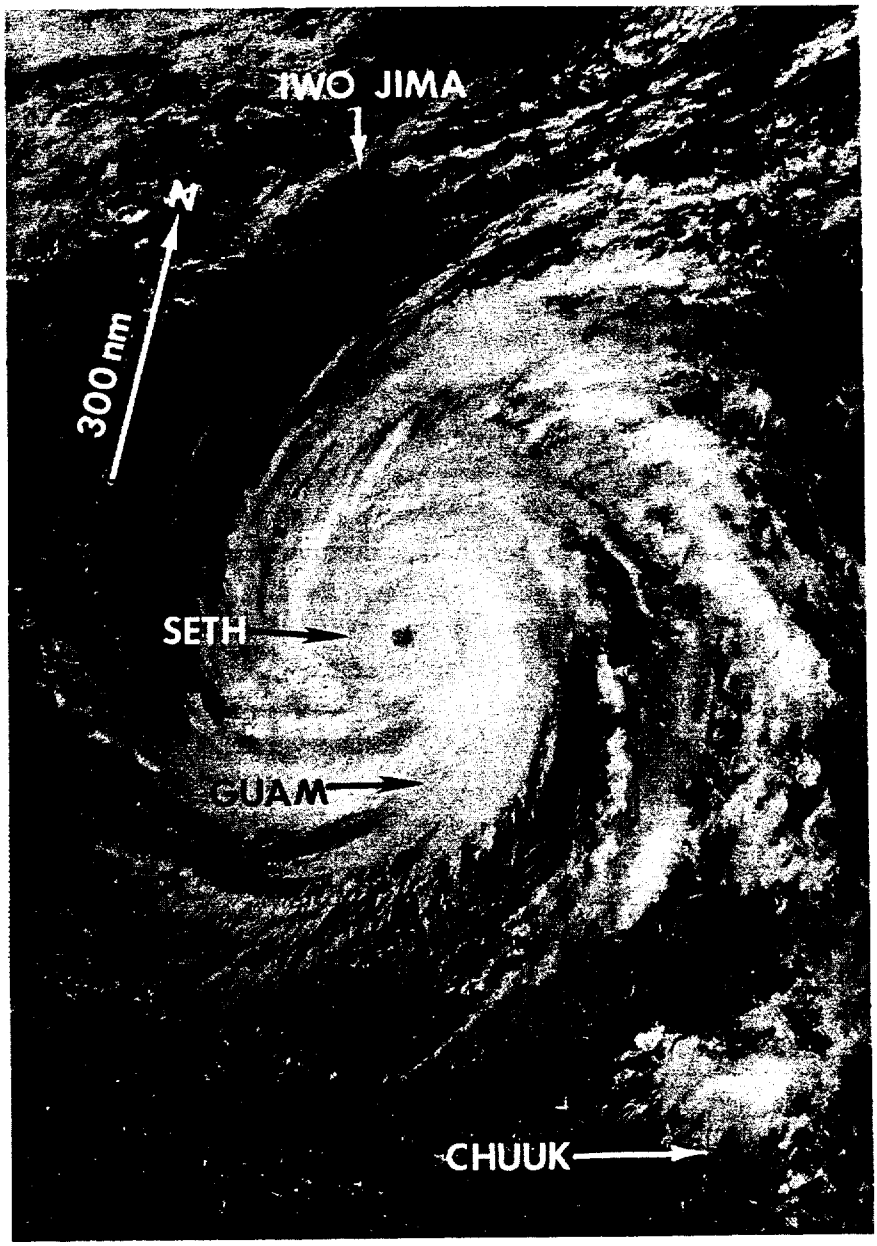

Figure 3-26-1. Satellite imagery shows Super Typhoon Seth at its peak intensity (032330Z November DMSP visual imagery).

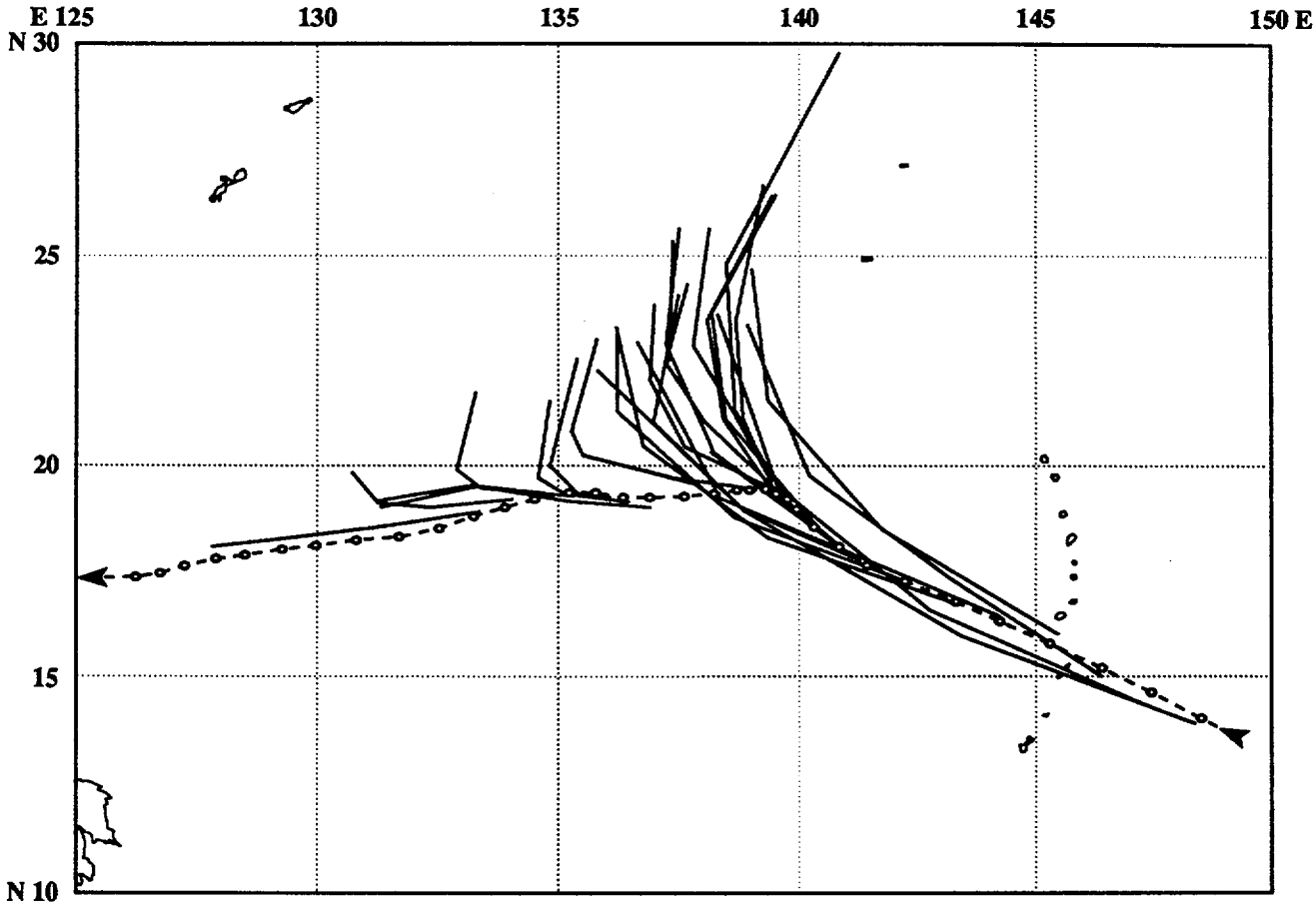

Figure 3-26-2. JTWC forecasts, when compared to the final best track, show gradual improvement after the bifurcation point near 140°E.